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## Evaluation of procurement systems for project success in real estate construction in Onitsha Anambra State, Nigeria

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### Abstract

Procurement in any real estate construction is very important aspect to be looked into as wrong procurement or selection process may negatively affect the implementation success of any real estate project. This research evaluated the procurement systems for project success in real estate project with focus on the identifying procurement systems that are mostly applied in Onitsha metropolis as well as the relationship between procurement systems and real estate project success. A total of 140 major stakeholders comprising clients, consultants and contractors were involved in the survey. The study adopted descriptive method of data analysis. It identified the factors that influence the selection

of procurement systems in real estate project implementation. Findings of the study indicated that the traditional procurement system is still the best known and the most widely used in Onitsha metropolis followed by design and build. For factors considered in choosing a particular real estate procurement system; cost optimization was ranked highest followed by project objective. The result further indicated that procurement system has a relationship with the project success. The research recommended that, consultants are expected to advise their clients on procurement systems available, roles and responsibilities of all the project participants should be clearly defined.

**Keywords:** Construction, Procurement, Project, Real Estate and Success

### 1. Introduction

The real estate sector is majorly private sector driven and has been in the center stage of Nigerian economic development, making great impacts in its (gross domestic product, GDP). According to Bhaskar, *et al* (2016)<sup>[4]</sup>, in many developing countries, major construction activities contributes about 80% of the total capital assets, 10% of the GDP which is more than 50% of the wealth assets invested in fixed assets. More than 50% of asset of most nations is held in real estate Brown and Matysiak, (2000)<sup>[5]</sup>. The Nigerian real estate sector is growing at a rate 8.7%, which is faster than the average GDP growth of 7.4%, PwC, (2015)<sup>[22]</sup>. In spite of this positive growth there are still challenges in form of failure which the procurement process cannot be totally exonerated from.

These failures i.e. real estate project failures have been seen a reoccurring phenomenon on this part of the globe and thus many reasons has been identified, one of which is issues that bothers on procurement or the ways and manners procurement are carried out, Ifediora and Obineme, (2017)<sup>[11]</sup>. The way procurement has been done in recent times especially within the real estate industry in recent times within Onitsha and its environs has been a call for reflection and concern thus needs investigation. Things were seen as not going on the right way i.e. the ways and manner procurement within the industry is handles and therefore it demands attention. The selection of an appropriate procurement system can reduce real estate project costs and may enhance the probability of project success, Naoum, (1994)<sup>[17]</sup>, Luu, *et al* (2003)<sup>[15]</sup>. Wrong procurement method has been identified as that which leads to project failure or client's dissatisfaction, Love, *et al* (1998).

The selection of procurement system by implication becomes a very important task for clients, as none adherence to right procurement system may lead to project failure, Chua, *et al* (1999). According to Nzekwe, *et al*, (2015)<sup>[18]</sup>, the Nigerian construction sector is dotted with many cases of failed, abandoned or uncompleted projects and includes both publicly-owned and private real estate projects. Ifediora and Obineme, (2017)<sup>[11]</sup>, identified procurement system as part of problems contributing to real estate project failure, abandonment and collapse in Anambra State, the manner of procurement of material resources as well souring of human resources has been figured out as some of the challenges. Clients have the responsibility to select the most appropriate procurement method for their real estate construction projects. This has become important because clients are faced with various options to procure his project Okunlola, (2012).

Selecting an appropriate project procurement method is a complex decision-making process due to risks and uncertainties, Agha, (2013) <sup>[2]</sup>. Moreover, this depends largely on the accurately identifying client requirements. At the time of the decision, the clients and stakeholders often have little information and the project plans are not detailed enough to make a judgment about the project with certainty of outcomes, Daniel, (2012).

The decision to select the appropriate procurement system to implement a real estate project is crucial. Though it does not necessarily lead to a successful project but, with other factors taken into consideration, can influence the success of the project, Okunlola and Olugbenga, (2010). The use of alternative procurement systems has increased recently due to many factors including the increase in complexity and size of projects, increased owner sophistication and requirements, demand for shorter delivery period and others. However, the decision is not easy as there are many factors that affect the project procurement system decision. These factors may include time constraint, issues relating to cost, scope, project quality, owner organization, cash inflow, project characteristics, risk and relationships. It is important that donors, clients and consultants understand these factors as it will assist them in making the right selection of procurement method for their projects, Sari and El Sayegh, (2007).

Several previous studies have identified number of factors influencing the selection of procurement system in real estate construction project. The selection criteria for project procurement will influence which procurement system should be used in a particular project. Client's needs differ and so do their requirements on projects vary considerably, in every respect hence, no single system of procurement can be suitable for every project, Luu, *et al* (2001). Moreover, there are some criteria to establish a profile of the client requirement and preferences for the procurement systems such as: speed (during design and construction), certainty, flexibility in accommodating changes in design, quality, complexities, risk allocation/avoidance, responsibility, and dispute resolution as well as arbitration, Love *et al* (2005) <sup>[14]</sup>. The previous experience of project client, or consultant and decision-makers plays an influential role when selecting a procurement system for a project, this question sought to determine the main criteria clients employ in selecting procurement systems, Shiyamini, (2006) <sup>[23]</sup>.

Owing to the need tackle real estate project failures, which wrong procurement systems has been identified, it makes sense to evaluate the procurement systems in Onitsha. Therefore, there is a need to explore new ways of procurement in construction projects hence, study aims at evaluating the procurement systems for project success in real estate sector in Onitsha metropolis. This it intends to identify the current procurement system and as well the factors that influence the selection of procurement systems in real estate construction project implementation. The study also intends to relationship between procurement systems selection and real estate construction project success, hence the hypothesis proposed was; there is no significant relationship between procurement systems selection and real estate construction project success Onitsha Anambra State. It is interesting to note that the practice of procurement selection seems to be rather unstructured and ad hoc. These procurement systems practices as well as selection process in the opinion of the author part of the constraint to real estate construction project success.

It's worthy to state too, that in spite of the huge impact of the real estate sector in the economy which is mostly private sector driven, there is paucity of research in the sector, thus a

resulting in huge gap in literature. This work however is committed to bridge the gap by opening a new course for further studies in the sector and in relation to the matters pertaining to procurement and real estate sector.

## 2. Literature review

According to Mastermann, (2002) procurement systems can be seen as procurement methods or systems for construction industry as the organizational structure adopted by client for the management of the design and construction of a building project. In construction projects different procurement methods are used for different and the correct selection will definitely help to avoid problems and more so, be the key to towards attainment of project specific goals, Eyitope, *et al*. (2012) <sup>[10]</sup>. On the hand, Real estate investment has been a steady and notable means of increasing ones initial investment over time, such investment is a tangible one can change and as well adapt to future trend, IREM, (2011). A real estate project is termed successful when it has satisfied quadruplet test criterion completion within specified time, within cost, quality standards specified and meets client's satisfaction and literatures abound showing why different projects fails.

According to Chua, *et al*. (1999) in their study on critical success factors for different project objectives stated that understanding the attributes of success contributes to the efficient execution of the construction project. Dvir and Dyer, (1992) <sup>[8]</sup> opined that the challenge in determining project success has to do with lack of a standardized approach. On the other hand, Kerzner, (2003) <sup>[13]</sup> in his book "Project management – a systems approach to planning, scheduling and controlling New York" stressed that traditionally, the industry-accepted classic objective success metrics for construction projects have been cost, schedule, performance and safety. While cost, schedule, performance and safety data provide objective metrics that are fairly easily quantifiable, there are other aspects of a project, including the level of quality achieved that may be subjective.

Saqib, *et al* (2008) on a study; an assessment of critical success factors for construction projects in Pakistan, established that success criteria or a person's definition of success as it pertains to a building sometimes changes from project to project depending on participants, scope of services offered, the project size, sophistication of the owner in relation to design of facilities, technological implications and of many other factors. Saqib, *et al*. (2008) further proposes an un-prioritized summary of success criteria for building clients, designer and contractors are as follows: Client's criteria for measuring success: This school of thought assumes that a successful project is the one which is completed on schedule, within budget, meets functional requirements and minimize aggravation in producing a building and Designer's criteria for measuring success: The designer's criteria of project success include: satisfied client, quality architectural product, met design fee and profit goal; professional staff fulfillment, met project budget and schedule; marketable product/process, minimal construction problems, socially accepted and well defined scope of work. Abul, *et al*. (2006) <sup>[1]</sup> in the work, effect of procurement systems on the performance of construction projects described Project procurement as an organized methods or process and procedure for clients to obtain or acquire construction products. It noted that apart from the traditional approach, there are now other "fast-tracking" or innovative procurement systems used by the construction industry worldwide. These procurement systems differ from each other in term of allocation of responsibilities, activities

sequencing, process and procedure and organizational approach in project delivery and that these differences have invariably affected the project performance.

Eriksson and Vennström (nd) <sup>[9]</sup> in the work effects of procurement on project performance: a survey of Swedish construction clients opined that in order to improve on the efficiency of the construction industry, improvement of procurement procedures is crucial. The study which was hinged on the purpose which was specifically on investigation aimed at increasing the understanding of how procurement procedures affect project performance developed a procurement model including eight hypotheses was first developed on the basis of review relevant literatures which was then tested using multivariate statistical techniques based on empirical data collected through a survey investigation of Swedish construction clients. The findings done using hierarchical regression analyses indicated that cooperative procurement procedures positively affect collaboration among project actors and that collaboration in turn has positive effects on project performance. In general, however, cooperative procurement procedures do not have direct effects on project performance. Jimoh, *et al.* (2016) <sup>[12]</sup> in the study procurement selection criteria for projects in the public sector: evidence from Nigeria noted that the selection of suitable procurement practice for construction projects is a very complex and demanding tasks for stakeholders in the construction industry, that in spite of the overabundance of techniques and tools accessible to the stakeholders in selecting an appropriate procurement method, clients are faced with the option of deciding which selection criteria can be adopted for a given construction project to achieve its goals and objectives. The findings of the study revealed that six most commonly considered criteria and deduced that, the quality, cost and duration of the project determines the type of procurement method to adopt.

Cherop, (2016) <sup>[7]</sup> in the study which was to aimed at assessing the state of public projects implementation in Kenya and to bring the key factors that underlie their successful implementation process, found that various procurement practices affect the successful implementation of projects at KenGen. The findings also indicated that supplier selection was seen to reduce conflict of interest existed between the suppliers and management of the organization which in turn influenced the productivity of the staff. Establishment of effective performance indicators by the organization as one form of procurement practice contributed to the limitation of unnecessary expenditures by the firm and reduces risks and increases in customer loyalty. The study concluded that to a great extent the successful implementation of projects being affected by adoption of procurement practices and recommended that there was need for the company to involve more stakeholders during the implementation and as well reduce other practices which may bring about unethical behavior that will likely be introduced in the company.

Alarcón, *et al.* (1999) <sup>[3]</sup> in the study evaluation and improvement of the procurement process in construction projects, proposed a methodology for diagnosis and improvement and this was tested in selected projects. The results obtained showed that the main problem of procurement is related to schedule delays and lack of specified quality for the project. To salvage the situation, the study opined that it is often necessary to dedicate important resources (money, personnel, time, etc.) to monitor and control the process. When the methodology was applied to some projects, it was found that the main sources of “waste”

were engineering, the system itself, the suppliers, and the policies. Great potential for improvement was identified adding that if state of the art technologies like, electronic mail, EDI (Electronic Data Interchange), bar codes, and other systems were used in the procurement process. The study noted that the technologies could help to eliminate the root causes for many types of wastes that were detected.

Oladinrin, *et al.* (2013) <sup>[19]</sup> examined the effect of Selected Procurement Systems on Building Project Performance in Nigeria. The study noted that every client at the beginning of any project aims at having value for the money spent via a quality structure delivered on time and within budget by the contractor. The result indicated that the traditional system of procurement was the most adopted option in project execution in Nigeria. Also, design and build system seems to perform better in cost, but lag construction management system in quality achievement. The study concluded that no procurement system is a do it all in that a procurement system may perform better than the other in an instant and fail in others as revealed in the findings. It recommended that consultants and other stakeholders in the construction industry and particularly those in the building sector should continue to explore continues capacity development as this will help them in professional advice especially as it concerns procurement, and that before choosing a procurement system the main objective and even supporting objectives should be established.

Omondi, *et al.* (2017) <sup>[20]</sup>, on the effects of procurement processes on successful completion of construction projects in Uasin Gishu County opined that the construction industry is an economic backbone of many countries but is encumbered by many challenges which compromise successful completion of its projects. It stated that amongst these challenges is the procurement process by the client which calls for a holistic and systemic approach to guarantee success at all the phases of construction projects. The finding of the study indicated that procurement process was found to be positively correlated to successful completion of construction Projects. Correlations between procurement control regulations and procurement quality assurance process were respectively also positively and significantly related to successful completion of construction projects. It recommended that adherence to procurement processes as enshrined in the public procurement and disposal act 2015 for successful completion of construction projects is very crucial. Ifediora and Obineme, (2017) <sup>[11]</sup>, in the work, procurement in real estate projects development and delivery: a case of human resources and material resources in Awka capital territory of Anambra state, identified procurement system as part of problems contributing to real estate project failure, abandonment and collapse in Anambra State, the manner of procurement of material resources as well souring of human resources has been figured out as some of the challenges.

Osanyinro and Aghimien (2017) <sup>[21]</sup> carried out an assessment of the procurement methods adopted by public procuring entities in Ondo State, Nigeria. They study noted that a procurement method to some extent determines the framework and structure of responsibilities for participants in a contract process and hence, a key factor contributing to overall project success. The work also observed that many procuring entities' choice of procurement method is perfunctory and based largely on familiarity with a particular procurement method rather than an informed choice based on project needs assessment. The work also assessed the procurement of public works by procuring entities in Ondo State, Nigeria while emphasizing their interest in the level of adoption of various procurement methods available and the

factors influencing their choice of a procurement method. Buzzetto, *et al.* (2020)<sup>[6]</sup> in the study, the key aspects of procurement in project management: investigating the effects of selection criteria, supplier integration and dynamics of acquisitions identified the major aspects of procurement within the Project Management context as well as their relation to project success. Particularly, the effects of selection criteria, supplier integration and the dynamics of acquisitions are investigated. The approach to the study was a systematic literature review which combined bibliometrics and content analysis. The main findings showed that academic literature focuses on the dynamics of acquisitions, lacking studies on the spectrum of supplier integration and supplier selection criteria. A finding of the study indicated a strong relationship between the dynamics of acquisitions and project success dimensions could be established. The literature reviewed above has nothing to do with the current procurement systems practiced in Onitsha metropolis, evaluation of the procurement systems for project success in real estate sector in Onitsha metropolis, the relationship between procurement systems and real estate construction project success and the factors that influence the selection of procurement systems in real estate construction project implementation hence, this study was devoted to evaluation of procurement systems for project success in real estate construction in Nigeria with emphasis in Onitsha Anambra State.

**3. Methodology**

**3.1 The study area**

The study location is Onitsha metropolis, the seat of commercial activities in Anambra State. Onitsha, originally known as Onicha ADO is located in Anambra State, which is one of the 36 states of the federation and one of five states in the South-East geo-political zone of the country. Onitsha is notable for its river port and serves as an economic hub for commerce, industry, and education. It hosts the Onitsha Main Market, the largest market in Africa regarding geographical size and volume of goods. Onitsha, the gateway to eastern Nigeria and economic nerve centre of Nigeria, is located on latitude 6°09'N and longitude 6°47'E in the Anambra North Senatorial Zone of Anambra State. It occupies the eastern

bank of River Niger, covering some 50 square kilometers. Onitsha is strategically located and accessed through the east – west national main road from Lagos through Benin which links the eastern north – south route via the Niger Bridge at Onitsha. The current estimated population according to Nigerian Bureau of Statistics is 157,807.

**3.2 Research design**

This study employed total population sampling. Total population sampling is a type of sampling technique which involves the examination of the entire population (i.e., the total population) that have a particular set of characteristics (e.g., experience, knowledge, skills, exposure to specific work or project, etc.). It is a type of purposive sampling technique one chooses to examine the entire population i.e., the total population that have a particular set of characteristics. The population of this study covers professionals (consultants and contractors), and they include professional like Estate Surveyors, Quantity Surveyors, Builders, Architects and Engineers who are into practice. Also, the selection of these respondents was based on the fact that within the period of this research, they were engaged in one real estate development or the other. The total population of respondents is put as 140 and questionnaires were distributed among these groups; the contractors, consultants and clients out of which 112 were returned. The data collected was carefully studied and represented in tables with corresponding percentages for easy analysis. Based on the information provided by the Consultants, Clients and Contractors, the Relative Importance Indices of the respondents were computed to deduce their ranking. Descriptive statistics which includes; simple tables, percentages and frequencies were used to present some aspects of the results. The data was analyzed by ranking the various factors that affects success of real estate projects. The ratings of identified factors by targeted respondents were against the five-point likert scale ranging from strongly disagree to strongly agree, with points 1 – 5, this was combined and converted to deduce the Relative Importance Index.

**4. Data presentation and discussion**

**Table 1:** Demographic information of respondents-contractors and consultants

Type of Respondents	No. of Questionnaires Sent	No. of Questionnaires Retrieved	Percentage of retrieval Response
Consultants	70	58	85.86%
Contractors	35	26	74.29%
Clients	35	28	89.29%
Total	140	112	80.00%

The table 1.0 above shows the total numbers of returned questionnaires by contractors, consultants and clients. From the table one can see that the total number of questionnaires distributed among consultants, contractors and clients are 70,

35 and 35 Out of each distributed for each of the consultants 58, 26 and 28 were retrieved from contractors, consultants and clients representing 85.86%, 74.29% and 89.29% respectively.

**Table 2:** Demographic information on Clients-Occupation

S/N	Occupation	Number of respondents	Percentage of respondents
1	Civil servant	6	20.44
2	Private practitioner/Entrepreneur	8	22.86
3	Business	15	42.56
4	Others	6	17.14
	<b>Total</b>	<b>35</b>	<b>100</b>

The table 2.0 above is demographic information of the clients especially in relation to their respective occupations. It can be seen from the presentation that majority of clients are into

business which amounted to 15 representing 42.56%, thus indicating that majority are more into business as Onitsha thus confirming as a commercial center.

**Table 3:** Education qualification of Contractors

S/N	Contractors	Total number of respondents	Percentage of respondents
1	OND/ND	3	4.29
2	BSc/HND	58	82.86
3	Post graduate	9	12.85
	Total	70	100

The table 3.0 above shows the educational qualifications of contractors, from the result it could be seen that majority of the respondents are with first degree BSc/HND. This accounted for 58 respondents representing 82.86%, while

contractors OND/ND and Post graduate has 3 and 9 respondents representing 4.29% and 12.85% respectively.

**Table 4:** Education qualification of Consultants

S/N	Contractors	Total number of respondents	Percentage of respondents
1	BSc/HND	5	14.29
2	MSc/MBA	20	57.14
3	PhD	10	28.57
	Total	35	100

The table 4.0 above shows the educational qualifications of consultants, from the result it could be seen that majority of the respondents are with MSc/MBA. This accounted for 20

respondents representing 57.14%, while contractors BSc/HND and PhD has 5 and 10 respondents representing 14.29% and 28.57% respectively.

**Table 5:** Professional qualification/membership of professional bodies for Contractors and Consultants

S/N	Professional membership/cadre	Contractors	Consultants	Percentage of respondents	
				Contractors	Consultants
1	Graduate/Probationer.	9	3	12.86	8.57
2	Associate.	46	23	65.71	65.71
3	Fellow.	15	9	21.43	25.72
	Total	70	35	100	100

The table 5.0 above shows professional qualification/membership of professional bodies for Contractors and Consultants, it could be observed that

majority of the contractors and consultants are Associates, followed by Fellow, while very few are Graduate members or Probationers.

**Table 6:** Number of years of practice

S/N	Number of years of practice	Percentage of respondents			
		Contractors	Consultants	Contractors	Consultants
1	0 - 10	8	2	11.43	5.71
2	11 - 20	49	25	70.00	71.43
3	20 - above	13	8	18.57	22.86
	Total	70	35	100	100

The table 6.0 above shows the number of years in practice for contractors and consultants. It shows that majority of the contractors and consultants have between 11 to 20 years of

practice, this is followed by 20 and above while 0 to 10 years of practice have least number of respondents.

**Table 7:** Real Estate Procurement Systems in Onitsha Metropolis - Consultant's

Procurement Systems in Onitsha Metropolis	Rating					Weighting	RII	Rank
	1	2	3	4	5			
Traditional.	6	6	10	15	18	198.000	0.720	1
Design and Build.	6	8	9	17	15	192.000	0.698	2
Construction Management.	5	6	17	12	15	191.000	0.695	3
Management Contracting.	5	10	11	13	15	186.000	0.675	4

From Table 7.0 above, it could be observed that based on the ranking that the most frequently used system is the traditional system with 0.720 followed by the design and build and construction management. The least used system is the

management contracting. This suggests that in the opinion of consultants in Onitsha metropolis is that traditional method of procurement has been prevalent and is the most used.

**Table 8:** Real estate procurement systems Onitsha metropolis – Clients

Clients	Rating					Weighting	RII	Rank
	1	2	3	4	5			
Traditional	3	2	5	7	9	95.000	0.731	1
Design and Build	3	3	4	9	7	92.000	0.708	2
Construction Management	2	3	8	6	7	91.000	0.700	3
Management Contracting	2	5	5	6	8	91.000	0.700	4

From the table 8.0, there is every indication that clients were more conversant with the traditional procurement which has the rank 0.731 followed by design and build, whereas construction management and management contracting were

not well-known. By implication opinion of consultants in Onitsha metropolis is that traditional method of procurement has been most popular and preferred.

**Table 9:** Real estate procurement systems Onitsha metropolis-Contractors

Contractor	Rating					Weighting	RII	Rank
	1	2	3	4	5			
Traditional	2	2	4	8	9	95.000	0.760	1
Design and Build	2	3	5	8	7	90.000	0.720	2
Construction Management	1	4	7	6	7	89.000	0.712	3
Management Contracting	3	4	6	6	6	83.000	0.664	4

The findings as indicated in Table 9.0 above shows contractors are less familiar with construction management and management contracting. However, the traditional

system ranked highest with a relative index of 0.760 hence remains the most familiar followed by design and build with a relative index of 0.720.

**Table 10:** Combined responds on real state procurement systems in Onitsha metropolis

Real State Procurement Systems in Onitsha metropolis	Consultants		Clients		Contractors		Weighting	Combined Ranks
	RII	Rank	RII	Rank	RII	Rank		
Traditional	0.720	1	0.731	1	0.760	1	0.74	1
Design and Build	0.698	2	0.708	2	0.720	2	0.71	2
Construction Management	0.695	3	0.700	3	0.712	3	0.70	3
Management Contracting	0.675	4	0.700	4	0.664	4	0.68	4

Based on analysis of responses from respondents, ratings of the level of application of procurement systems were computed based on the total sample size involving consultants, clients and contractors together, the weightings and relative importance indices of the RII-1 (Consultants), RII-2 (Clients) and RII-3 (Contractors) were combined as shown in table 10.0 The analysis confirms that the traditional procurement system is the most popular procurement method employed by construction consultants, clients and contractors. This might be attributable to the fact that consultants, clients and contractors are conversant with the traditional system and prefer to use it in spite of its limitations when it comes to large and complex real estate projects. This fact is also supported by literature reviewed. Management

contracting seems not to be a popular procurement method. However, the results may suggest that design and build could be an alternative procurement method for major stakeholders in the construction industry.

The foregoing findings confirm that traditional system is still the most used procurement system in Onitsha real estate construction projects. This is because it's familiarity despite its limitation in the handling of complex and large projects. The design and build comes second after the traditional system, followed by construction management procurement systems. This indicates that there is a reasonable level of application of design and build; however, not all respondents were familiar with the system. The management contracting system is the least known system out of the four.

**Table 11:** Factors Considered in Choosing a Particular Real Estate Procurement System

Factors	Rating					Weighting	RII	Rank
	1	2	3	4	5			
Cost optimization	15	12	23	4	1	129.000	0.478	1
Project's objective	15	13	22	4	1	128.000	0.465	2
Complexity of project	14	25	7	8	1	122.000	0.452	3
Quality level	14	26	7	7	1	120.000	0.444	4
Time savings	15	26	6	7	1	118.000	0.437	5
Ease of use	25	10	10	9	1	116.000	0.430	6
Source of funding	25	11	9	9	1	115.000	0.426	7
Dispute avoidance	26	9	11	8	1	114.000	0.422	8
Experience	26	11	9	9	0	111.000	0.411	9
Risk avoidance	28	11	9	8	0	109.000	0.403	10

The result of ranking system described in table 11.0 showed that the most important factors they considered in choosing a procurement system were cost optimization, project objective, complexity of project, quality level and time

savings in that order. This is however not to say that the high ranked factors all and the most important even as other ranked factors are also considered of importance to be considered in procurement.

**T-Test of Relationship between Real Estate Procurement System Selection and Project Success.**

**Table 12: Paired Samples Statistics**

	Mean	N	Std	Std Error Mean
Pair 1 There is no significant relationship between procurement systems selection and real estate construction project success.	29.3333	3	4.04145	2.33333
H <sub>1</sub> : There is significant relationship between procurement systems selection and real estate construction project success.	8.3333	3	6.50641	3.75648

**Table 13: Paired Samples Test**

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std Deviation	Std Error Mean	95% Confidence Interval of the Difference.				
				Lower	Upper			
Pair 1 There is no significant relationship between procurement systems selection and real estate construction project success.	21.00000	5.29150	3.05505	7.85518	34.14482	6.874	2	0.021
H <sub>1</sub> : There is significant relationship between procurement systems selection and real estate construction project success.								

From the table of the student’s T- distribution 13.0 above, the confidence level of ‘t’ at 0.05 is 2.35. Since the SSPS generated ‘t’ value of 0.021 is less than 2.35, null hypothesis was rejected that there is no statistical significance relationship between real estate procurement system selection and project success. Therefore, the conclusion that there is a relationship between real estate procurement system selection and project success is confirmed.

**5. Recommendations and conclusion**

The major findings are can be summarized as; most consultants and contractors are familiar with the traditional procurement system as it is still the best known and applied in the real estate construction sector within Onitsha metropolis. This means that traditional procurement system is still widely accepted in the study area. Even the clients seem to be more comfortable with the traditional procurement system. The traditional system from the findings is selected most times. Identified also were factors which must be considered in choosing a particular procurement system, ten of which were identified, the top three factors considered in choosing a particular real estate procurement system are in the following order: cost of optimization, project’s objective and complexity of project. The selection of an appropriate real estate procurement system contributes to the attainment of client objectives with respect to time, cost and quality for construction projects. On the proposed hypothesis, it was discovered that there exist a relationship between real estate procurement system selection and project success.

The study recommended that; on commencement of construction projects, consultants and contractors are expected to advise their clients on the best and prevalent procurement systems available as well as roles and responsibilities of all the project participants; that is the roles of consultants, clients, contractors, etc. Emphasis should be placed on the three major factors considered in choosing a particular procurement system comprising; the cost optimization, project’s objective and complexity of project, these factors should be critically considered while implementing any procurement.

Conclusively, the traditional procurement system is still the best known and mostly used in the real estate construction

sector in Onitsha metropolis. The cost of optimization, project’s objection and complexity of project were considered as three major factors to be considered before a particular procurement system is to be chosen. Since it is established that their relationship exist between real estate procurement system and project success, it is expected that clients, consultants and contractors should ensure that they exercise reasonable caution/care in their choices especially on the procurement system that they want to adopt.

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